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Letter from the Director

The ultimate validation of success for any technology transfer program is the market launch of its licensed technology. The introduction of new products helps assure that publicly-funded research benefits society in a very direct way by improving people's lives. This past fiscal year, Emory added an astounding six new products to its pipeline of marketed products.

The highlight of this year's list was the antiviral drug, telbivudine, currently marketed by Novartis as Tyzeka®. Resolution of a longstanding contractual dispute between Emory, UABRF and Idenix Pharmaceuticals, Inc. resulted in a one-time payment of \$1.6 million to Emory and on-going royalty payments through 2018 from Tyzeka® sales.

Emory continued to build the front end of our product pipeline in FY08. Emory entered into an exclusive license arrangement with Besins Healthcare for a promising new therapy, the use of progesterone to treat traumatic brain injury (TBI). Patients suffering from TBI currently have few treatment options. Besins expects to initiate its clinical program sometime in 2009. Another clinical stage technology, OBI-1 for the treatment of hemophilia, got a boost this year when Ipsen Biopharm Limited purchased these assets from Emory's start-up company, Octagen. The medical device side of our product pipeline was also significantly enhanced with Velocity Medical Solutions' receipt of two FDA 510k clearances for its cancer imaging software products and Syntermed's launch of SyncTools®, a software product approved by the FDA for improved evaluation of heart failure. These new products, along with many others included in this report, continue to demonstrate Emory University's commitment to and success in translating its research into products that will benefit society.

Technology transfer programs across the country were confronted with a major challenge this past year – bad economic conditions. Universities are a major source of early stage technology that feeds industry product pipelines. A slowdown in the transfer of new technology out of the university is a clear indicator of a more risk adverse economy. Indeed, OTT saw a sharp decrease in the number of AUTM reportable licenses executed relative to the previous year. In addition, the formation of new Emory start-up companies was down and none of our start-ups received a first round of venture funding during FY08. Fortunately, the number of high net worth deals closed by OTT staff remained strong and will provide promising product opportunities in the future.

As I write this letter, the global economic crisis continues and this will surely impact the biotech and pharmaceutical industries on which we rely to commercialize Emory innovations. OTT's staff is dedicated to frugal management of the patent budget, thorough review of our technology portfolio and careful attention to post-license monitoring. These factors will be even more critical in the coming year to ensure responsible management of our resources and to maintain the strongest possible technology pipeline as we strive to fulfill our mission.



Todd T. Sherer, PhD
Associate Vice President for Research and Director,
Office of Technology Transfer

Fall

- NIH awarded a \$15 million Integrated Preclinical/Clinical AIDS Vaccine Development (IPCAVD) grant to GeoVax Labs.
- Harriet Robinson was elected "Fellow of the American Association for the Advancement of Science (AAAS)" for her outstanding work on retrovirus biology and the development of HIV DNA vaccines.
- Triptcor won the SEBIO BIO/PLAN business plan competition.
- AxoGen received \$12.1 million in Series C funding from four venture capital firms (Accuitive Medical Ventures, Cardinal Partners, De Novo Ventures, and Springboard Capital).

Winter

- Metastatix commenced phase I clinical trial of MSX-122 in cancer patients at the University of Texas M.D. Anderson Cancer Center.
- GeoVax Labs and Metastatix received Deal of the Year awards at Georgia BIO's annual awards dinner.
- Georgia Rep. Charlice Byrd filed House Bill 1095, calling for the establishment of an Innovation Center to help make GA a national leader in science innovation and a desirable location for business.
- Cougar Biotechnology initiated phase I clinical trial for CB3304 (noscapine) in patients with multiple myeloma at Cornell Medical College and Columbia University Medical Center.

Spring

- Alimera Sciences closed \$30 million in Series C financing (Intersouth Partners, Domain Associates, Polaris Partners, Scale Venture Partners, and Venrock Associates).
- Progesterone, as a repurposed therapeutic for traumatic brain injury, was licensed to Besins Healthcare.
- GeoVax Labs secured a up to \$10 million financing commitment from Fusion Capital Fund through the option to purchase common stock.
- Cougar Biotechnology and Pharmasset joined the Russell 3000 index.

Summer

- Emory and the UABRF settled a long standing contractual dispute with Indenix Pharmaceuticals, Inc. with Emory receiving an upfront payment and running royalties.
- Syntermed launched SyncTools[®], a software product approved by the FDA for improved evaluation of heart failure.
- Velocity Medical Solutions received two FDA 510k clearances for a full featured cancer imaging software product.
- Ipsen purchased all the assets related to OBI-1, a recombinant porcine Factor VIII, from Octagen.

Emory Product Pipeline

Product Pipeline

Product Pipeline: Therapeutics

Product	Licensee	Indication	Predinical	Phase I	Phase II	Phase III	NDA	Market
3TC (Combivir®)	GlaxoSmithKline/Shire	HM	█	█	█	█	█	█
3TC (EpiVir®)	GlaxoSmithKline/Shire	HM	█	█	█	█	█	█
3TC (EpiVir-HBV®)	GlaxoSmithKline/Shire	HM	█	█	█	█	█	█
3TC (Epziocom®)	GlaxoSmithKline/Shire	HM	█	█	█	█	█	█
3TC (Trizivir®)	GlaxoSmithKline/Shire	HM	█	█	█	█	█	█
FTC (Atripla®)	Gilead Sciences, Inc.	HM	█	█	█	█	█	█
FTC (Emtriva®)	Gilead Sciences, Inc.	HM	█	█	█	█	█	█
FTC (Truvada®)	Gilead Sciences, Inc.	HM	█	█	█	█	█	█
Tyzeka™ (telbivudine)	Idenix Pharmaceuticals	HBV	█	█	█	█	█	█
AGI-1067	AtheroGenics, Inc.	Diabetes	█	█	█	█	█	█
±FTC (Racivir®)	Pharmasset, Inc.	HM	█	█	█	█	█	█
β-L-Fd4C (elvucitabine)	Achillion Pharmaceutical	HM	█	█	█	█	█	█
DAPD (amdoxovir)	RFS Pharma, LLC	HM	█	█	█	█	█	█
DFC (daxelucitabine)	Pharmasset, Inc.	HM	█	█	█	█	█	█
QBI-1 (rp/VII)	Ipsen Biopharm Limited	Hemophilia	█	█	█	█	█	█
Progesterone	BHR Pharma, LLC	Traumatic Brain Injury	█	█	█	█	█	█
AGI-1096	AtheroGenics, Inc.	Transplant Rejection	█	█	█	█	█	█
CB 3304 (noscapine)	Cougar Biotechnology	Multiple Myeloma	█	█	█	█	█	█
DNA/MVA HIV Vaccine	GeoVax, Inc.	HM	█	█	█	█	█	█
APD	RFS Pharma, LLC	HM/HSV	█	█	█	█	█	█
CB 6604 (ER noscapine)	Cougar Biotechnology	Cancer	█	█	█	█	█	█
CUR-024	Curry Pharmaceuticals	Cancer	█	█	█	█	█	█
CUR-770	Curry Pharmaceuticals	Psoriasis	█	█	█	█	█	█
DOT	RFS Pharma, LLC	HM	█	█	█	█	█	█
Retrovax™ HM Vaccine	Virionics Corporation	HM	█	█	█	█	█	█
STX107	Seaside Therapeutics	Fragile X Syndrome	█	█	█	█	█	█
2'-Fluoronucleosides	Pharmasset, Inc.	HM	█	█	█	█	█	█
NADPH Oxidase Inhibitor	Alimera Sciences, Inc.	Macular Degeneration	█	█	█	█	█	█
NMDAR blocker	NeurOp Corporation	Ischemia/Neuropathic Pain	█	█	█	█	█	█

Product Pipeline: Diagnostic/Device Products Requiring IND/IDE/NDA Regulatory Processes

Product	Licensee	Indication	Predinical	Phase I	Phase II	Phase III	NDA	Market
Beta-Cath™	Best Vascular, Inc.	Restenosis	█	█	█	█	█	█
Braingate™	Cyberkinetics	Spinal Cord/Stroke/MD	█	█	█	█	█	█
Braingate™	Cyberkinetics	ALS/MND	█	█	█	█	█	█
FACBC	Nihon-Medi-Physics	Tumor Imaging	█	█	█	█	█	█

Product Pipeline: Diagnostic/Device Products Requiring 510K Regulatory Processes

Product	Licensee	Indication	Prototype	Registration Trial(s)	510(k)/PMA Application	Market
CLEARGLIDE™	Datascope Corp.	Vein Harvesting	█	█	█	█
Emory Cardiac Toolbox™	Syntermed, Inc.	Cardiac Imaging	█	█	█	█
ExSPECT II™	Syntermed / Philips	Cardiac Imaging	█	█	█	█
Fragile X Diagnostic Test	Quest and others	Fragile X Syndrome	█	█	█	█
IMA Scairos	IC T/Scanlan International	Vascular Surgery	█	█	█	█
LEGACY Titanium Forceps	IC T/Scanlan International	Surgery	█	█	█	█
NeoControl®	Neotonus, Inc.	Incontinence	█	█	█	█
PetTools™	Syntermed, Inc.	Cardiac Imaging	█	█	█	█
QuantEM™	GE Medical Systems	Renal Imaging	█	█	█	█
ReconTools™ (ERTb™)	Syntermed, Inc.	Cardiac Imaging	█	█	█	█
SyncTools™	Syntermed, Inc.	Cardiac Imaging	█	█	█	█
VelocityAI™	Velocity Medical Solutions	Oncology Imaging	█	█	█	█
NeuroStar TMS Therapy™	Neuronetics, LLC	Depression	█	█	█	█
Neurostimulator (RNS™)	NeuroPace, Inc.	Epilepsy	█	█	█	█
OxLDL	CPD, LLC	Heart Disease	█	█	█	█
Aegis™	3Ti	Immunohematology	█	█	█	█

Product Pipeline: Consumer Products

Product	Licensee	Indication	In Development	Market
Duralast (antimicrobial)	Duraban International	Construction Industry	█	█
Duralast OEM (antimicrob.)	Duraban International	Construction Industry	█	█
Goldshield™	NBS Technology, LLC	Antimicrobial Shield	█	█
Sucres® DEFENSE	GSH Biomedical Ltd.	Immune System Boost	█	█
VR Solutions	Virtually Better	Virtual Reality Therapy	█	█
Antimicrobial coating	LAAMScience	Antimicrobial Coating	█	█

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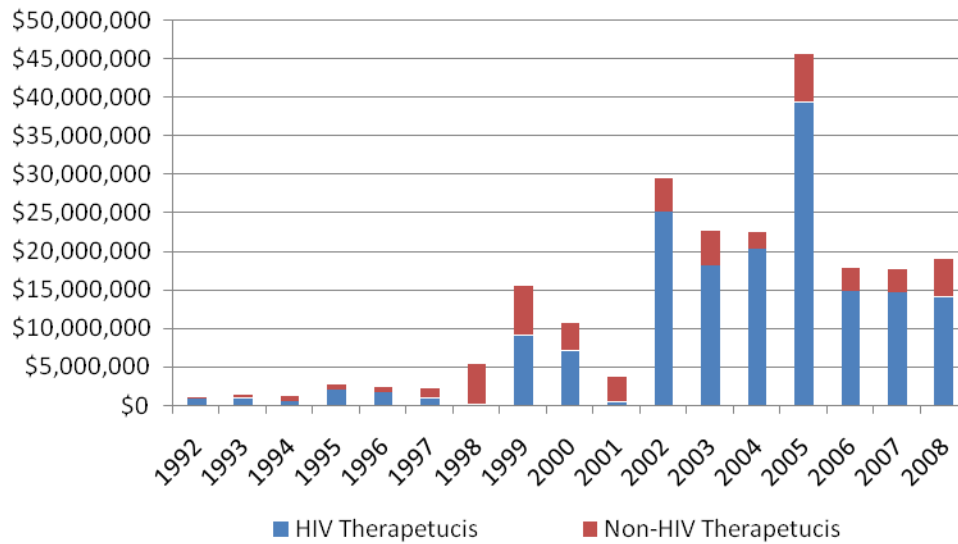
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Revenue

As a result of the monetization of Emory's royalties for FTC in 2005, revenues continue to be less than in previous years. This year revenue totaled \$19,020,361.20.

Emory has received a grand total of \$760,382,203.40 through FY08 from the commercialization of Emory technologies.

Net Fees and Royalties by Year



Note: In FY05 \$540,000,000 was received in connection with the monetization of FTC royalties

Summary of Expenditures and Revenues for FY92–FY08

Fiscal Year	Total Patent Expenses	Reimbursed Patent Expenses	Reimbursed Past Patent Expenses	License Revenue *	Return on Patent Expense Investment **
1992	\$(243,554.87)	\$137,868.56		\$978,181.83	\$872,495.52
1993	\$(316,315.79)	\$174,066.98		\$1,278,731.43	\$1,136,482.62
1994	\$(448,767.07)	\$182,100.50		\$1,083,398.45	\$816,731.88
1995	\$(585,415.31)	\$245,178.91		\$2,637,146.69	\$2,296,910.29
1996	\$(1,210,632.63)	\$777,391.86		\$2,316,793.30	\$1,883,552.53
1997	\$(1,066,584.60)	\$284,074.69		\$2,115,559.48	\$1,333,049.57
1998	\$(1,524,810.61)	\$551,263.85		\$5,313,706.40	\$4,340,159.64
1999	\$(2,332,896.46)	\$500,948.48		\$15,437,285.00	\$13,605,337.02
2000	\$(3,266,373.14)	\$671,767.20		\$10,671,921.65	\$8,077,315.71
2001	\$(4,568,569.50)	\$4,005,408.35		\$3,608,156.91	\$3,044,995.76
2002	\$(7,155,792.41)	\$889,586.94	\$145,248.51	\$29,557,916.39	\$23,436,959.43
2003	\$(2,565,067.46)	\$931,626.59	\$349,629.66	\$22,737,389.16	\$21,453,577.95
2004	\$(2,190,578.77)	\$835,926.24	\$234,408.31	\$22,517,830.24	\$21,397,586.02
2005	\$(1,852,482.44)	\$605,011.07	\$244,028.90	\$45,656,765.15	\$44,653,322.68
2005 ***				\$540,000,000.00	\$540,000,000.00
2006	\$(2,063,712.70)	\$951,051.43	\$199,565.42	\$17,769,294.77	\$16,856,198.92
2007	\$(2,453,499.56)	\$1,141,245.12	\$447,385.29	\$17,681,765.35	\$16,816,896.20
2008	\$(3,407,280.35)	\$1,996,440.95	\$159,154.30	\$19,020,361.20	\$17,768,676.10
Total	\$(37,252,333.67)	\$14,880,957.72	\$1,779,420.39	\$760,382,203.40	\$739,790,247.84

* License Revenue includes Emory's Share only; amounts distributed to other institutions not included.

** Return on Patent Expense Investment is equal to the sum of License Revenue, Reimbursed Past Patent Expenses, and Reimbursed Patent Expenses minus the Total Patent Expenses.

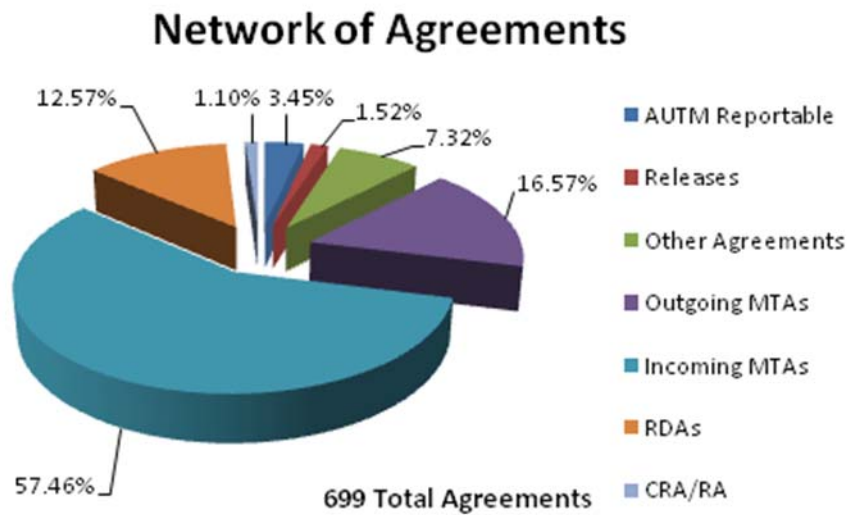
*** Revenue received in connection with the monetization of future FTC royalties.

Non-Financial Metrics

Network of Agreements

The pie chart below demonstrates the complex network of agreements that must be executed to protect Emory's intellectual property. A total of 699 contracts were executed in FY08. Quantitatively the largest share of contracts on a numbers basis continues to be incoming MTAs, which govern the use of outside research materials by Emory investigators. Outgoing MTAs and RDAs (i.e.,

confidentiality agreements) rank 2nd and 3rd, respectively. AUTM reportable license agreements are the "bread and butter" of any technology transfer program as these agreements represent opportunities to get more new products to market and to generate revenue for the university. Twenty-four AUTM reportable agreements were executed this year.



AUTM Reportable Agreements

License Agreements by Type > \$1,000

License Category	FY08	FY07	FY06	FY05	FY04
Exclusive Licenses	11	13	6	7	14
Non-exclusive Licenses	12	23	14	21	12
Option Agreements	1	4	2	2	1
Total	24	40	22	30	27

License Agreements by Technology > \$1,000

Technology Category	FY08	FY07	FY06	FY05	FY04
Diagnostics	2	2	1	1	1
Drug Discovery	0	2	3	2	0
Medical Device	1	3	2	0	2
Micro & Nano Technology	0	0	0	1	1
Non-Therapeutic Materials	0	5	1	3	2
Research Tools	9	14	10	17	9
Software	5	6	0	2	2
Therapeutics	7	7	5	4	8
Vaccines	0	1	0	0	2
Total	24	40	22	30	27

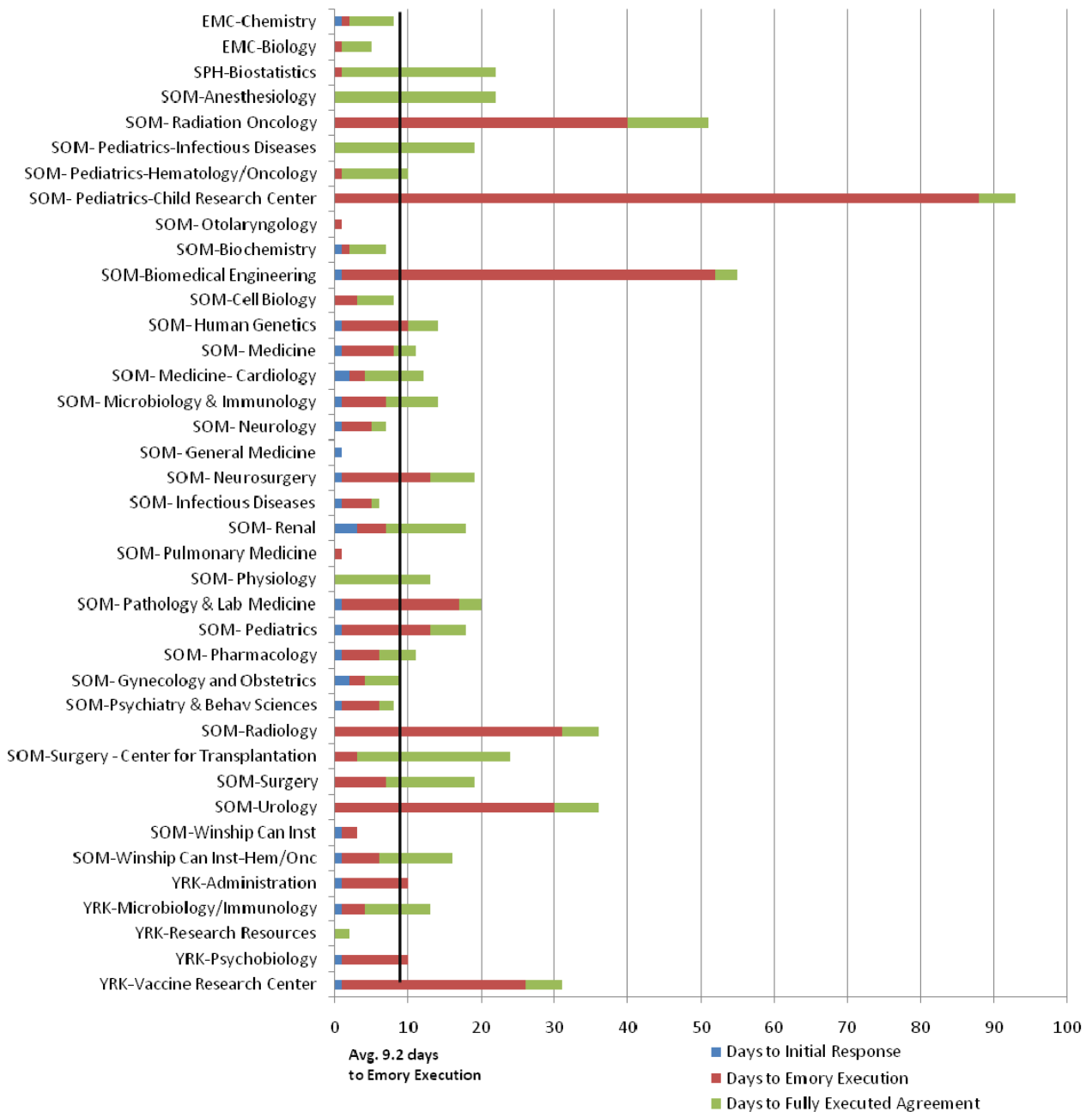
Non-AUTM Reportable Agreements

Agreement Type	FY08	FY07	FY06	FY05	FY04
Other Agreements	53	54	34	49	41
- Amendments	7	15	12	13	18
- Inter-Institutional Agreements (IIAs)	4	8	2	2	3
- In-licenses	0	0	0	0	3
- Non-exclusive	4	3	2	2	0
- Sub-licenses	0	0	5	2	0
- Other, including Assignments, MOU, Promissory Notes, Registration Rights, Royalty Sharing, Service, Stock Purchase, etc.	38	28	13	32	16
Outgoing Material Transfer Agreements	120	123	100	132	75
Incoming Material Transfer Agreements	416	287	236	287	233
Restricted Disclosure Agreements	91	108	113	108	120
Research Agreements (with IP option)	8	7	3	9	53
Release to Inventor Agreements	11	13	11	16	3
Total	699	592	497	601	525

MTA Program

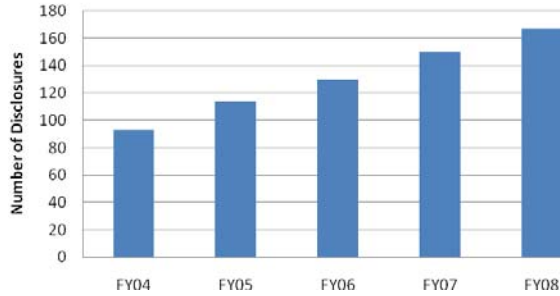
The efficient transfer of research materials is of critical importance to Emory investigators' research programs. In FY08, the MTA team executed a total of 554 agreements, the most ever in a single fiscal year and a 36% increase over FY07. Despite the significant growth in the number of agreements executed, the average time to internal execution for incoming MTAs increased only 5% (8.8 days in FY07 to 9.2 days in FY08). The increasing number of MTAs managed by the office is testament to the importance of this service that OTT provides to the University's research community.

Incoming MTA Turn Around Time by Department

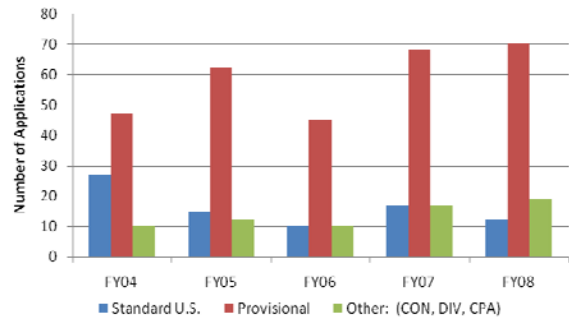


Disclosures, Patents and Agreements

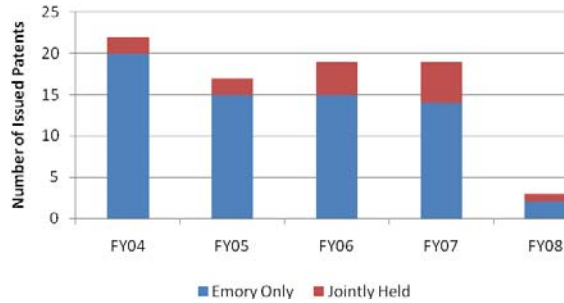
Number of Invention Disclosures



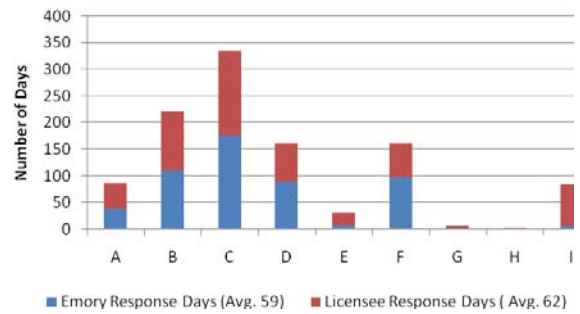
Number of U.S. Patent Applications



Number of Issued U.S. Patents



AUTM High Net Worth Licenses Turn-Around Time



Disclosures, Patents and Agreements by School

The following agreements (identified in particular categories) are associated with personnel/researchers in the following schools:

Agreement	SOM	College	SOM and EMC	Public Health	SOM and Yerkes	Yerkes	Other
24 AUTM Reportable Agreements	20	3	1	0	0	0	0
11 Releases	9	0	0	0	2	0	0
53 Other Agreements	43	4	2	0	0	0	4
120 Outgoing MTAs	115	0	0	3	0	2	0
416 Incoming MTAs	366	18	0	1	0	31	0
91 RDAs	76	7	0	0	0	1	7
8 CRA/RA	7	0	0	0	0	0	1
724 Agreements	636	32	3	4	2	34	12

Patents

3 US Patents issued covering Emory technologies, 2 of which are solely owned by Emory, and 1 of which is jointly owned by Emory and/or an Emory licensee or an Emory research partner. Of these issued patents, one is licensed. The creation of the technology embodied in these patents emanated from the various schools as follows:

- 2 created in the School of Medicine
- 1 created jointly in School of Medicine/College

Disclosures

167 Invention Disclosures were submitted to OTT this year; 11 of these disclosures have been released to the inventors, 13 have become inactive and the remaining 143 are active. The contributors to the technology embodied in these disclosures are located in the following schools:

- 134 created in the School of Medicine
- 8 created in Emory College
- 15 created jointly in the School of Medicine and Emory College
- 2 created jointly in the School of Medicine and Yerkes Primate Research Center
- 1 created jointly in the School of Medicine and School of Public Health
- 1 created in School of Public Health
- 3 created in Yerkes Primate Research Center
- 1 created jointly in Academic Admin and the School of Medicine
- 1 created in the School of Nursing
- 1 created jointly in Academic Admin and Emory College

Emory FY08 Start-Up Companies

Axona, Inc.

Axona, Inc. (Atlanta, GA) is an emerging biopharmaceutical company focused on developing drugs to treat the pain associated with chemotherapy induced peripheral neuropathy (CIPN). During cancer treatment, CIPN is so severe that patients often have to discontinue treatment and forgo the benefits of chemotherapy. Axona develops inhibitors of an enzyme called calpain. Since calpain is involved in the axonal degradation that causes peripheral neuropathy, inhibitors of calpain are considered to be useful in treating a number of neurodegenerative conditions, including CIPN. Axona was formed based on intellectual property jointly created by Emory neurologist Jonathan Glass and Georgia Tech chemist James Powers. The company's drug development efforts have been funded by venture capital and government grants.

Simatra Modeling Technologies, LLC

Simatra Modeling Technologies, LLC (Atlanta, GA) develops novel, high-performance, low-cost numerical simulation technologies for widespread use in energy, pharmaceuticals, aerospace, finance and other industries. Numerical simulations allow individual users to take advantage of powerful computing resources generally owned by institutions but not readily accessible. The company's platform technology, consisting of mathematical models, hardware and software, was created by Emory faculty Robert Lee (Georgia Tech/Emory Department of Biomedical Engineering) and colleagues. Simatra's product development is currently funded by the federal government's small business innovation research (SBIR) grant and the Georgia Research Alliance.

Zenda Technologies, Inc.

Zenda Technologies, Inc. (Roswell, GA) develops novel, portable medical devices for rapid neuropsychological assessment. Emory physician David Wright (Emergency Medicine) and Georgia Tech engineer Michelle LaPlaca (Biomedical Engineering) are inventors and scientific co-founders of the company. A need for a field-effective, efficient diagnostic and evaluation tool for sports-related mild traumatic brain injury (mTBI) led the inventors to develop the Display Enhanced Testing for Concussions and mTBI (DETECT™). The DETECT™, Zenda's first product, is a self-contained computer system that can be used to assess both mTBI associated with concussion and mild cognitive impairment (MCI)-the most common early symptom of Alzheimer's disease. Zenda's product development has been funded by the Wallace H. Coulter Foundation and the Georgia Research Alliance.